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EXAMINER	
TORRES, JUAN A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,332	OVCHINNIKOV, VALERY VASILIEVICH	
	Examiner	Art Unit	
	JUAN A. TORRES	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/08/2009 has been entered.

Claim Objections

The modifications to the claims were received on 05/08/2009. These modifications are accepted by the Examiner.

In view of the amendment filed on 05/08/2009, the Examiner withdraws claims objections to claims 2 and 4 of the previous Office action.

Response to Arguments

Regarding claim rejections under 35 USC § 112:

Due to the lack of arguments, the rejections of claims 5 and 6 under 35 USC § 112 second paragraph are maintained.

For these reason and the reason of the previous Office action the rejections of claims 5 and 6 under 35 USC § 112 second paragraph are maintained.

Regarding Lattice:

Applicant's arguments filed 05/08/2009 have been fully considered but they are not persuasive.

The Applicant contends:

> "As the basis for determination of differences between the subject matter sought to be patented and the prior art, both the first and the second Office Actions contain precisely the Applicant Admitted Prior Art (AAPA), according to 35 USC § 103. The Applicant presented a detailed analysis of the Lattice methodology ("In-System Programming Design Guidelines for ispJTAG Devices", February 2002) in the previous reply. In particular, it was pointed out that the Examiner had erroneously failed to notice availability in Lattice of a common bus, which is conventionally omitted in drawings presented in the special literature, but which is present in the actual circuit. As a result, Lattice comprises four (rather than one, as the Examiner assumed) communication lines, which should be considered independently. The above consideration demonstrates that any of the aforesaid communication lines comprises one resistor only. As distinct from the claimed invention, no second resistor is installed in the common bus in Lattice. Moreover, with the processor in operation, i.e., with signals being transmitted along a communication line (which is solved in this invention), even this single processor available in Lattice is switched off the communication line. In Lattice, it is recommended to be used briefly at the moment of switching on the power supply, when the processor is being switched on for the first time, and is used for quite different purposes, namely, to eliminate voltage surges at the moment of the processor power supply being switched on."

The Examiner disagrees, and asserts that, as indicated in the previous Office action, AAPA discloses a two-wire communication line including a first wire and a second wire (page 3 lines 1-12 "The method for transferring electrical signals via the MicroLAN bus ("known method for transferring of discrete electrical signals from a transmitter to a receiver, which are located in a two-wire communication line with a power voltage supply, where the first pole of the power supply and the first wire of the communication line are grounded while the second wire of the communication line is connected to the second pole of the power supply via a resistor,"); a power voltage supply including a first pole and a second pole (page 3 lines 1-12); wherein the first pole of the power supply and the first wire of the communication line are grounded (page 3 lines 1-12); the second wire of the communication line is connected to the second pole

of the power supply via a first resistor (page 3 lines 1-12). AAPA doesn't disclose that the first wire of the communication line is grounded via a second resistor, the first and second resistors having the same resistance. Lattice discloses that the first wire of the communication line is grounded via an additional resistor whose value is equal to the value of the first resistor (page 6 "pin connections after programming" section. This technique can be applied to any type of data transfer or test signals, "both the TMS pin and the TDI pin have internal pull-up resistors. By ensuring that there is a '1' on the TMS pin, inadvertent clocking of TCK will not cause the JTAG state machine to leave its reset state. During power-up, inadvertent clocking on TCK can cause the 1149.1 state machine and instruction register to come up in an undesirable state. To increase noise immunity during power-up, the following recommendation is made: A 4.7kΩ pull-up resistor should be used on the TMS signal and a 4.7 kΩ pull-down resistor on the TCK signal on a board.). AAPA and Lattice teachings are analogous art because they are from the same field of communication systems. At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate in the methodology disclosed by AAPA the ground resistor disclosed by Lattice. The suggestion/motivation for doing so would have been to improve the noise immunity (page 6 "pin connections after programming" section)

For these reason and the reason of the previous Office action the rejections of claim 2 under 35 USC § 103 is maintained.

Regarding Olsen:

Applicant's arguments filed 05/08/2009 have been fully considered but they are not persuasive.

The Applicant contends:

> The Applicant agrees that the Applicant Admitted Prior Art (AAPA) and Olsen (US, 5051980) teaching are analogous art because they are from the same field of communication systems. Moreover, AAPA comprises two methods of transmission of discrete electrical signals from transmitter to receiver, known as RS-232 and RS-485. The new cited reference - Olsen, is a method of transmitting signals through RS-232. The Examiner is right to note that, both in the first and in the second solution; the AAPA does not disclose that the first wire of the communication line is grounded via a second resistor, the first and second resistors having the same resistance. However, the Examiner Attorney is wrong to claim that "Olsen discloses that the first wire of the communication line is grounded via an additional resistor whose value is equal to the value of the first resistor (fig. 7 claim 11 page 6 "pin connections after programming" section)". The Applicant draws the Examiner's attention to the fact that the essence of the claimed technique lies right in the structure of the communication line between transmitters and receivers, as well as in the principle of signal transmission and reading of the signal voltage value relative to the first wire of the communication line, which involves using the claimed structure of communication line. At the same time, a newly cited reference - Olsen (US, 5051980) does not disclose the structure of communication line. but rather the structure of a receiver (voltmeter) characterized by balanced resistors of the same value: R73 and R75, R72 and R74. R71 and R76 (see Fig. 7). Therefore, neither AAPA, nor Olsen (taken independently, or combined) disclose the claimed principle of transmitting the signal and reading its value. The Applicant's following arguments will become more apparent upon reference to the following drawings. Brief description of the drawings: Fig. 1 - electrical diagram/structure of RS-485 communication line. Please, note that here R3 corresponds to R71 and R76 in Olsen, Fig.7, R2 corresponds to (R72+R73) and (R74+R75). Fig. 2 - electrical diagram/structure of communication line of the present invention. Fig. 3 - electrical diagram /structure of communication line of the invention RS-232, Olsen. Fig. 4 - electrical diagram/structure of communication line obtained according to the Examiner's recommendations, i.e., by means of incorporation of RS-232 (Olsen) and AAPA. As it is the structure of communication lines between receivers and transmitters, which defines the essence of the claimed technique, in the Applicant's view, it is necessary, first of all, to compare the claimed structure of communication line to known structures of communication line disclosed in RS-485 and in RS-232. As distinct from the claimed structure of communication line, the known communication line (both in RS-232, and in RS-485) contains no power supply in its structure, where the RS- 232 communication line contains one transmitter and one receiver, while the RS-485 communication line contains n- receivers and n- transmitters. To provide better understanding of the essence of the matter, the Applicant proposes first to compare the claimed invention to RS-485, and only then to RS-232 (Olsen).. Like the claimed method, RS-485 constitutes a two-wire communication line (the third wire - common bus - being optional), connected to a certain number of transmitters and receivers communicating by means of

transmission of a logical signal in the binary code. However, the principles of transmission of logical signal in RS-485 and in the claimed technique are fundamentally different, which will be shown below. The Applicant draws the Examiner's attention to the fact that the structure of the RS-485 communication line contains no elements but a pair of wires 1,2 (see Fig. 1), and therefore the communication line is passive in a sense that it does not act as a power supply for communication of signals between transmitters and receivers. In RS-485, transmission of signals is performed owing to the energy of transmitter, which the transmitter receives from its power supply, which does not make a part of the communication line structure, instead making a part of the transmitter itself. The need in an external power supply located beyond the communication line structure is one of the shortcomings of RS-485, as it requires each device (a transmitter, a receiver) connected to the communication line to have a second (reserve) power supply. To ensure the system's reliability, every device must have a second (reserve) power supply - generally, a storage battery - as well as an additional power supply to recharge this battery, devices for monitoring operability of the first and second power supplies, with the relevant information communicated to the central control board, with regular maintenance of all the aforesaid devices, etc. Receivers in RS-485 receive signals from transmitters by measuring voltage between the wires of communication line, that is, act as voltmeters. The design of these voltmeters may be of various kinds, yet differential amplifiers with symmetrical inputs are most often used for this purpose. Olsen discloses one of the embodiments of the structure of a receiver (voltmeter) with symmetrical inputs, but not the structure of communication line. Fig.1 presents a structure of this particular receiver, which has two identical (equal) resistors R2 at its input corresponding to resistors (R72+R73) and (R74+R75) in Fig.7 (Olsen), as well as two resistors R3 setting the initial displacement of differential amplifier, which correspond to resistors R71 and R76 in Olsen, Fig.7. Here, resistors R73 and R75 perform the protective function, have a small resistance value (i.e., R72>>R73 and R74>>R75), and may be disregarded in calculations. It is well known that any voltmeter must be designed in such a way to contribute minimum distortion in the signal it measures. Subject to this requirement, the receivers are designed in such a way that resistors R2 and R3 have a large value (just like resistors R71, R76, (R72+R73), (R74+R75)) and produce no effect on generation of signals in the communication lines, or on variation and passage of these signals along the communication line. In other words, they do not constitute elements of the communication line structure, i.e., they are not related to the design of communication line and do not make a part of the above structure. Resistors R2 and R3 (just like R71, R76, (R72+R73), (R74+R75)) make a part of the design of a receiver-voltmeter. Here, this part is not obligatory, as other versions of implementation of the receiver design are also possible. What the newly cited reference (Olsen) discloses is just a particular embodiment of the design of voltmeter, not the structure of a communication line between the receiver and the transmitter. The structure of communication line according to the claimed invention is presented in Fig. 2. In addition to two wires, the claimed structure of communication line comprises active and passive elements, namely, a single power supply of communication line and two resistors R1 limiting the current in the line. The Applicant is to draw the Examiner's attention to the fact that there are no resistors of a similar function in RS-485, RS-232, or in Olsen. In the claimed technique, transmitters are passive devices power-supplied from the communication line, whereas transmission of a logical signal in the binary code is exercised by closing the line with a transmitter by means of an electronic key. Receivers in the claimed method may be the

same as in RS-485, i.e., they may be implemented in the form of a differential amplifier with symmetrical inputs, in a way similar to Fig. 1, or in the form of any other design. Therefore, in the known methods of signal transmission (RS-485), resistors R2 and R3, as well as resistors R71, R76, (R72+R73), (R74+R75) (Olsen, Fig.7) make a part of the structure of receiver-voltmeter, and, hence, must not and do not affect formation and passage of signals in the communication line, i.e., resistors R2 and R3, as well as R71, R76, (R72+R73), (R74+R75), are not elements of the communication line. As distinct from them, resistors R1 installed between the power supply of communication line and the transmitter, determine parameters of the signal generated by the transmitter, i.e., they are elements of communication line in implementation of the claimed technique of signal transmission. If we consider once again the method RS-232 (Olsen), we will see that this method provides for several communication lines (see Fig. 3 of this reply), each of them being a particular case of RS-485, in a sense that it only contains one transmitter and one receiver. Here, we should take into account that Fig.7 (Olsen) only presents one of two devices participating in communication, and, for better understanding, this device is enclosed with a dashed line in our Fig. 3. The physical essence of the RS-232 transmitter, receiver and communication line shown in Fig. 3 are similar to RS-485. In other words, the receiver in the form of a differential amplifier with its resistors R2 and R3 (R71, R76, (R72+R73), (R74+R75)) does not affect the form of the signal generated by the transmitter and subsequently transmitted along the communication line; therefore, the above resistors cannot be considered elements of communication line, i.e., elements affecting implementation of the claimed method. Based on the foregoing, we may conclude that the Examiner has allowed a substitution of notions: the Examiner erroneously took resistors making a part of the design of receiver for resistors making a part in the structure of communication line. Therefore, the functional property of the receiver resistors, which lies in equality of their nominal values, may not be compared to the functional property of the communication line resistors, which, by mere coincidence, also lies in equality of their nominal values. As resistors of the receiver (voltmeter) and resistors of the communication line differ in their functional purpose, it is incorrect to compare equalities of their values. Therefore, a combination of known methodologies disclosed in RS-232 (Olsen) and in AAPA (RS-232, or RS-485), which comprise an active transmitter, does not make it possible to obtain an entire claimed structure of communication line, as the claimed structure of communication line is fundamentally different in the fact that it comprises a power supply of communication line and two resistors R1 for limitation of current in the line. The above power supply of communication line, without which it is impossible to implement the claimed method, is not compatible with any of the known methodologies disclosed in Olsen (RS-232) and in AAPA. Should a person of ordinary skill in the art combine the methodology disclosed by AAPA, or by Olsen, and the communication line equipped with a power supply in a single electrical diagram, there would occur a short circuit at the moment of signal transmission - BOOM!!!, as shown in Fig. 4. Therefore, as of the date of creation of the invention, a person of ordinary skill in the art would find it obvious not to combine the methodology disclosed in AAPA and the methodology disclosed in Olsen, the more so since no grounded resistor is used in the communication line in Olsen (instead, in Olsen, a grounded resistor is used in the voltmeter (receiver) circuit, which has nothing to do with the claimed method). As the Applicant has already pointed out, claim 3 is to be excluded. The Applicant previously noted in his email letter dated December 1, 2008 that the phrases "the first wire could be floating ground" and "the first pole of the power

> supply and ...are grounded to a floating ground" aren't connect. Please, note that the term "floating ground" was used by Applicant only as a physical model to describe a phenomenon that takes place in the working system for transferring signals (new claim 2), wherein first wire is connected to a common wire (a ground bus) via a (second) resistor. There is no any real element "a floating ground" in the above-mentioned system. It's only imagination." (emphasis in original)

The Examiner disagrees, and asserts that, as indicated in the previous Office action, AAPA discloses a two-wire communication line including a first wire and a second wire (page 3 lines 1-12 "The method for transferring electrical signals via the MicroLAN bus ("known method for transferring of discrete electrical signals from a transmitter to a receiver, which are located in a two-wire communication line with a power voltage supply, where the first pole of the power supply and the first wire of the communication line are grounded while the second wire of the communication line is connected to the second pole of the power supply via a resistor,"); a power voltage supply including a first pole and a second pole (page 3 lines 1-12); wherein the first pole of the power supply and the first wire of the communication line are grounded (page 3 lines 1-12); the second wire of the communication line is connected to the second pole of the power supply via a first resistor (page 3 lines 1-12). AAPA doesn't disclose that the first wire of the communication line is grounded via a second resistor, the first and second resistors having the same resistance. Olsen discloses that the first wire of the communication line is grounded via an additional resistor whose value is equal to the value of the first resistor (abstract figure 7 claim 11, Olsen discloses "A Data Communication Device permits extended range RS-232 communications between two devices by utilizing a current loop between the remote device and the Data

Communication Device", "A Data Communication Interface Device for extended range RS-232 communication between a first external signal source and receiver located within 25 feet of said interface, and at least one remote second external signal source and receiver, comprising: means for receiving a first electrical signal having an RS-232 format from said first external signal source, said receiving means including means for amplifying and modifying said first electrical signal, and for transmitting said modified signal over a distance of up to at least 5,000 feet to said remote second external receiver; and means for receiving a second electrical signal having an RS-232 format over a distance of up to at least 5,000 feet from said remote second external source, including means for amplifying and transmitting said second electrical signal to said first external receiver, and for preserving the requirements of said RS-232 format from the perspective of the remote second external source, said means for receiving a second electrical signal including common mode rejection means for providing noise immunity by including a DC return for said second electrical signal, said DC return completing a loop circuit which includes an operational amplifier arranged to operate in differential mode, a resistor/diode network arranged to provide impedance matching, and a common ground terminal in said remote second external source connected to an input of said operational amplifier."). AAPA and Olsen teachings are analogous art because they are from the same field of communication systems. At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate in the methodology disclosed by AAPA the ground resistor disclosed by Olsen. The

suggestion/motivation for doing so would have been to improve the noise immunity (claim 11).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

What the Examiner is using from Olsen is the idea that that using two resistor of the same value in both cables, provide “noise immunity by including a DC return for said second electrical signal” and this will help in provide an extended range in the system. This is the combination proposed by the Examiner, everything like the AAPA but including a new resistor to improve the noise immunity and provide an extended range of the system. This point is what should be addressed by the Applicant in further communications.

The Examiner also point out that the motivation of the Applicant is the same that the motivation of Olsen, the intention is to improve the immunity to noise.

For these reason and the reason of the previous Office action the rejection of claim 2 under 35 USC § 103 is maintained.

Claim Rejections - 35 USC § 112

The modifications to the claims were received on 05/08/2009. These modifications are accepted by the Examiner.

In view of the amendment filed on 05/08/2009, the Examiner withdraws claim rejections under 35 USC § 112 second paragraph to claim 3 of the previous Office action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, claim 5 recites the limitation "A method according to claim 3" in line 1. There is insufficient antecedent basis for this limitation in the claim because claim 3 is a system.

Regarding claim 5, claim 5 recites the limitation "wherein the receiving step" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 6, claim 6 recites the limitation "A method according to claim 3" in line 1. There is insufficient antecedent basis for this limitation in the claim because claim 3 is a system.

Regarding claim 6, claim 6 recites the limitation "wherein the logical signal" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Examiner NOTE:

It seems that claims 5 and 6 should depend from claim 4 instead of claim 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Lattice ("In-System Programming Design Guidelines for ispJTAG Devices", February 2002).

Regarding claim 2, AAPA discloses a two-wire communication line including a first wire and a second wire (page 3 lines 1-12); a power voltage supply including a first pole and a second pole (page 3 lines 1-12); wherein the first pole of the power supply and the first wire of the communication line are grounded (page 3 lines 1-12); the second wire of the communication line is connected to the second pole of the power supply via a first resistor (page 3 lines 1-12). AAPA doesn't disclose that the first wire of the communication line is grounded via a second resistor, the first and second resistors having the same resistance. Lattice discloses that the first wire of the communication line is grounded via an additional resistor whose value is equal to the value of the first resistor (page 6 "pin connections after programming" section. This technique can be applied to any type of data transfer or test signals). AAPA and Lattice teachings are analogous art because they are from the same field of communication systems. At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate in the methodology disclosed by AAPA the ground resistor disclosed by

Lattice. The suggestion/motivation for doing so would have been to improve the noise immunity (page 6 “pin connections after programming” section).

Regarding claim 3, AAPA and Lattice disclose claim 2, AAPA also discloses that the first pole of the power supply and the first wire of the communication line are grounded to a floating ground (page 1 line 7 to page 3 line 17).

Regarding claim 4, AAPA and Lattice disclose claim 2, AAPA also discloses transmitting by the one or more transmitters a logic signal generated by an electric key through the communication line (page 3 lines 1-12); receiving by the one or more receivers the logic signal transmitted through the communication line (page 3 lines 1-12); wherein the transmitting and the receiving steps are performed using the second wire of the communication line (page 3 lines 1-12).

Regarding claim 5, AAPA and Lattice disclose claim 3, AAPA also discloses measuring a voltage value of the second wire with respect to the first wire (page 1 line 7 to page 3 line 17).

Regarding claim 6, AAPA and Lattice disclose claim 3, AAPA also discloses that the logic signal is a binary-code (page 1 line 7 to page 3 line 17).

Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Olsen (US 5051980 A).

Regarding claim 2, AAPA discloses a two-wire communication line including a first wire and a second wire (page 3 lines 1-12); a power voltage supply including a first pole and a second pole (page 3 lines 1-12); wherein the first pole of the power supply and the first wire of the communication line are grounded (page 3 lines 1-12); the

second wire of the communication line is connected to the second pole of the power supply via a first resistor (page 3 lines 1-12). AAPA doesn't disclose that the first wire of the communication line is grounded via a second resistor, the first and second resistors having the same resistance. Olsen discloses that the first wire of the communication line is grounded via an additional resistor whose value is equal to the value of the first resistor (abstract figure 7 claim 11). AAPA and Olsen teachings are analogous art because they are from the same field of communication systems. At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate in the methodology disclosed by AAPA the ground resistor disclosed by Olsen. The suggestion/motivation for doing so would have been to improve the noise immunity (claim 11).

Regarding claim 3, AAPA and Olsen disclose claim 2, AAPA also discloses that the first pole of the power supply and the first wire of the communication line are grounded to a floating ground (page 1 line 7 to page 3 line 17).

Regarding claim 4, AAPA and Olsen disclose claim 2, AAPA also discloses transmitting by the one or more transmitters a logic signal generated by an electric key through the communication line (page 3 lines 1-12); receiving by the one or more receivers the logic signal transmitted through the communication line (page 3 lines 1-12); wherein the transmitting and the receiving steps are performed using the second wire of the communication line (page 3 lines 1-12).

Regarding claim 5, AAPA and Olsen disclose claim 3, AAPA also discloses measuring a voltage value of the second wire with respect to the first wire (page 1 line 7 to page 3 line 17).

Regarding claim 6, AAPA and Olsen disclose claim 3, AAPA also discloses that the logic signal is a binary-code (page 1 line 7 to page 3 line 17).

Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Tae (US 4734919 A).

Regarding claim 2, AAPA discloses a two-wire communication line including a first wire and a second wire (page 3 lines 1-12); a power voltage supply including a first pole and a second pole (page 3 lines 1-12); wherein the first pole of the power supply and the first wire of the communication line are grounded (page 3 lines 1-12); the second wire of the communication line is connected to the second pole of the power supply via a first resistor (page 3 lines 1-12). AAPA doesn't disclose that the first wire of the communication line is grounded via a second resistor, the first and second resistors having the same resistance. Tae discloses that the first wire of the communication line is grounded via an additional resistor whose value is equal to the value of the first resistor (figure 1 resistors R1 and R2 column 3 lines 13-65)). AAPA and Tae teachings are analogous art because they are from the same field of communication systems. At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate in the methodology disclosed by AAPA the ground resistor disclosed by Tae. The suggestion/motivation for doing so would have been to improve the noise immunity (column 2 lines 35-39 and column 4 lines 59-65).

Regarding claim 3, AAPA and Tae disclose claim 2, AAPA also discloses that the first pole of the power supply and the first wire of the communication line are grounded to a floating ground (page 1 line 7 to page 3 line 17).

Regarding claim 4, AAPA and Tae disclose claim 2, AAPA also discloses transmitting by the one or more transmitters a logic signal generated by an electric key through the communication line (page 3 lines 1-12); receiving by the one or more receivers the logic signal transmitted through the communication line (page 3 lines 1-12); wherein the transmitting and the receiving steps are performed using the second wire of the communication line (page 3 lines 1-12).

Regarding claim 5, AAPA and Tae disclose claim 3, AAPA also discloses measuring a voltage value of the second wire with respect to the first wire (page 1 line 7 to page 3 line 17).

Regarding claim 6, AAPA and Tae disclose claim 3, AAPA also discloses that the logic signal is a binary-code (page 1 line 7 to page 3 line 17).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Komarek (US 6018219 A) discloses a home and small business phone system for operation on a single internal twisted pair line and methodology for operating the same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUAN A. TORRES whose telephone number is (571)272-3119. The examiner can normally be reached on 8-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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06-06-2009

/Juan A Torres/
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